DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD FINAL ENVIRONMENTAL IMPACT STATEMENT

FOR

PROPOSED NEW BRIDGE ACROSS THE MANATEE RIVER, MILE 15.0,
AT PARRISH, MANATEE COUNTY, FLORIDA

APPENDIX G

AIR QUALITY MEMORANDUM

NOVEMBER 2010

URS

MEMORANDUM

Date: October 30, 2012

To: File

From: Vickie Scott

Subject: US Coast Guard Docket No.: USCG-2010-0455
Fort Hamer and Rye Road Alternatives from SR 64 to US 301
Manatee County, Florida
Air Quality Screening Test

The referenced proposed project is located in Manatee County, Florida, an area currently designated as being attainment for all of the National Ambient Air Quality Standards (NAAQS) under the criteria provided in the Clean Air Act (CAA). Therefore, the CAA conformity requirements do not apply to the project.

The project alternatives were subjected to a carbon monoxide (CO) screening model that makes various conservative worst-case assumptions related to site conditions, meteorology and traffic. The Florida Department of Transportation's screening model, CO Florida 2004 (released September 7, 2004), uses the latest USEPA-approved software (MOBILE 6 and CAL3QHC) to produce estimates of one-hour and eight-hour carbon CO at default air quality receptor locations. The one-hour and eight-hour estimates can be directly compared to the one-and eight-hour NAAQS for CO that are 35 parts per million (ppm) and 9 ppm, respectively.

The roadway intersection forecast to have the highest total approach traffic volume for the Fort Hamer Alternative was Upper Manatee River Road at SR 64 for the Build scenario and the No-Build scenario. The roadway intersection forecast to have the highest total approach traffic volume for the Rye Road Alternative was Rye Road at SR 64 for the Build scenario and the No-Build scenario. The Build and No-Build scenarios for both the opening year (2015) and the design year (2035) were evaluated. The traffic data input and diagrams used for the analysis are attached to this memorandum.

Estimates of CO were predicted for the default receptors which are located 10 feet to 150 feet from the edge of the roadway. Based on the results from the screening model, the highest project-related CO one- and eight-hour levels are not predicted to meet or exceed the one- or eight-hour NAAQS for this pollutant with either the Fort Hamer Alternative or Rye Road Alternative. As such, the project 'passes' the screening model. The results of the screening model are attached to this memorandum.

TRAFFIC DATA FOR AIR QUALITY ANALYSIS

Date: 10/23/12 Prepared by: URS

Financial Project ID Number(s):

Federal Aid Number(s):

Project Description: Ft. Hamer Bridge – Ft. Hamer Alternative

NOTE: Traffic data should be provided for the intersection that is forecast to have the highest total approach traffic volume. Notably, the intersection may not be the same for the Build and No-Build alternatives. The number of lanes should be the number of intersection approach through lanes. The traffic volumes should be representative of vehicles per hour (vph) and vehicle speeds should be representative of posted speeds if intersection cruise approach speeds are unknown. This traffic data sheet was prepared to assist in obtaining appropriate traffic data for the FDOT CO Florida 2004 Intersection Screening Model. Notably, additional traffic data is required for diamond interchanges (see User's Guide).

Opening Year: 2015

Intersections: Build: SR 64/Upper Manatee River Rd No-Build: SR 64/ Upper Manatee River Rd

Land Use: Urban: X Suburban: Rural:

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build	3	1452	55	3	1233	55	3	1194	45	3	1098	45
No-Build	3	1410	55	3	1308	55	3	1092	45	3	558	45

Design Year: 2035

Intersections: Build: SR 64/Upper Manatee River Rd No-Build: SR 64/Upper Manatee River Rd

Land Use: Urban: X Suburban: Rural:

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build	3	1832	55	3	1405	55	3	1629	45	3	1943	45
No-Build	3	1620	55	3	1560	55	3	2028	45	3	870	45

TRAFFIC DATA FOR AIR QUALITY ANALYSIS

Date: 10/23/12 Prepared by: URS

Financial Project ID Number(s):

Federal Aid Number(s):

Project Description: Ft. Hamer Bridge – Rye Rd. Alternative

NOTE: Traffic data should be provided for the intersection that is forecast to have the highest total approach traffic volume. Notably, the intersection may not be the same for the Build and No-Build alternatives. The number of lanes should be the number of intersection approach through lanes. The traffic volumes should be representative of vehicles per hour (vph) and vehicle speeds should be representative of posted speeds if intersection cruise approach speeds are unknown. This traffic data sheet was prepared to assist in obtaining appropriate traffic data for the FDOT CO Florida 2004 Intersection Screening Model. Notably, additional traffic data is required for diamond interchanges (see User's Guide).

Opening Year: 2015

Intersections: Build: SR 64/Rye Rd. No-Build: SR 64/ Rye Rd.

Land Use: Urban: X Suburban: Rural:

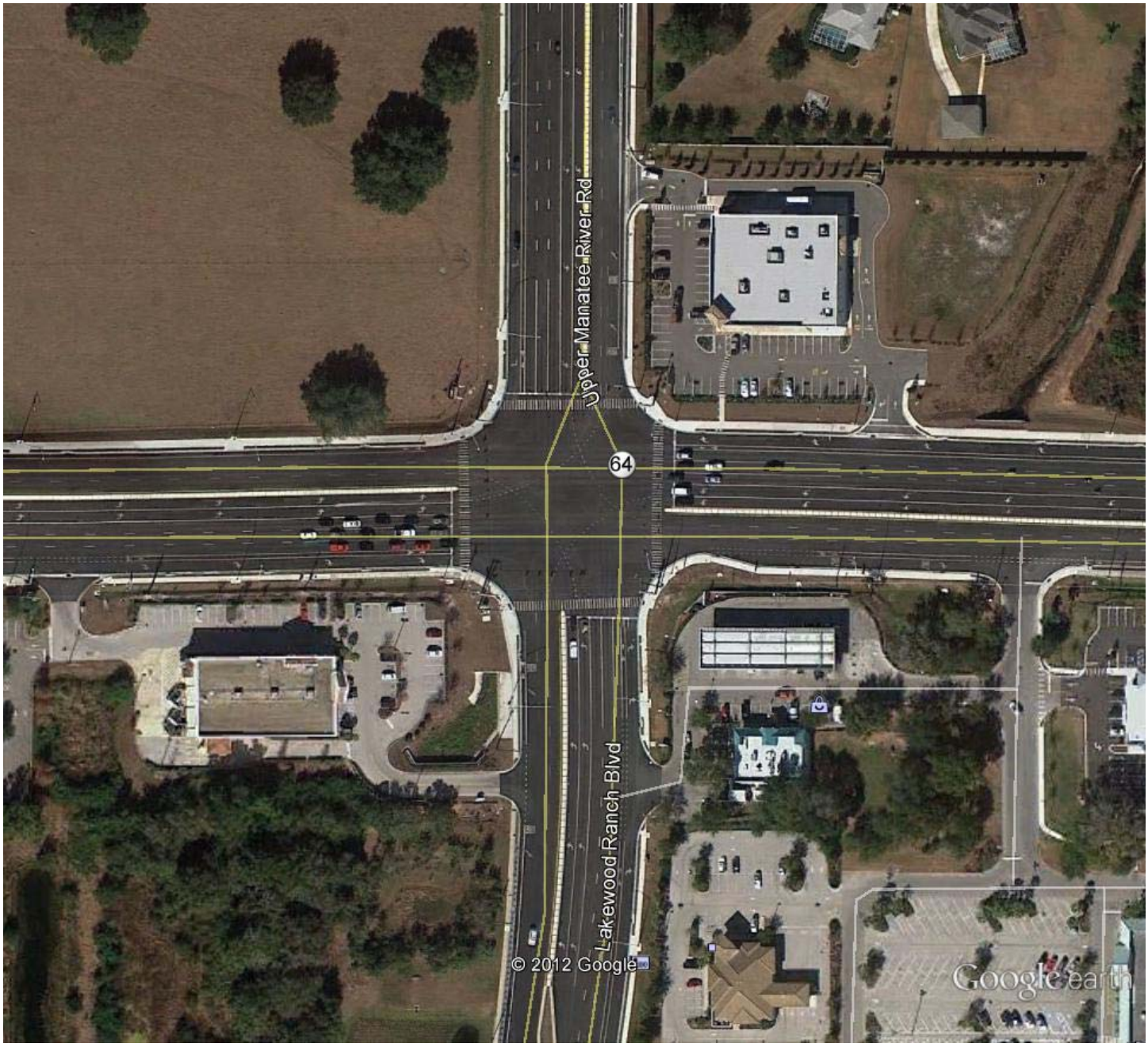
Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build	2	1320	60	2	734	60	-	-		2	810	55
No-Build	2	912	60	2	468	60	-	-		1	411	55

Design Year: 2035

Intersections: Build: SR 64/Rye Rd No-Build: SR 64/Rye Rd.

Land Use: Urban: X Suburban: Rural:

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build	2	1482	60	2	960	60	-	-		2	655	55
No-Build	2	1398	60	2	840	60	-	-		1	624	55



Google earth

feet 600
meters 100

Google earth

feet 200
meters 80

CO Florida 2004

Project: Fort Hamer Alternative Build 2015
Facility: Upper Manatee River Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2015
Intersection Type:	6 x 6 Intersection
Max Approach Traffic Volume:	1452 veh/hour
Speed:	55

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	8.1	4.9
Default Rec 2	8.5	5.1
Default Rec 3	9.4	5.6
Default Rec 4	9.2	5.5
Default Rec 5	8.2	4.9
Default Rec 6	9.2	5.5
Default Rec 7	9.4	5.6
Default Rec 8	8.5	5.1
Default Rec 9	8.1	4.9
Default Rec 10	8.2	4.9

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Fort Hamer Alternative No Build 2015
Facility: Upper Manatee River Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2015
Intersection Type:	6 x 6 Intersection
Max Approach Traffic Volume:	1410 veh/hour
Speed:	55

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	7.9	4.7
Default Rec 2	8.4	5.0
Default Rec 3	9.3	5.6
Default Rec 4	9.1	5.5
Default Rec 5	8.1	4.9
Default Rec 6	9.1	5.5
Default Rec 7	9.3	5.6
Default Rec 8	8.4	5.0
Default Rec 9	7.9	4.7
Default Rec 10	8.1	4.9

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Fort Hamer Alternative Build 2035
Facility: Upper Manatee River Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2035
Intersection Type:	6 x 6 Intersection
Max Approach Traffic Volume:	1943 veh/hour
Speed:	45

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	8.5	5.1
Default Rec 2	9.1	5.5
Default Rec 3	9.6	5.8
Default Rec 4	9.5	5.7
Default Rec 5	8.5	5.1
Default Rec 6	9.5	5.7
Default Rec 7	9.6	5.8
Default Rec 8	9.1	5.5
Default Rec 9	8.5	5.1
Default Rec 10	8.5	5.1

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Fort Hamer Alternative No Build 2035
Facility: Upper Manatee River Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2035
Intersection Type:	6 x 6 Intersection
Max Approach Traffic Volume:	2028 veh/hour
Speed:	45

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	8.8	5.3
Default Rec 2	9.3	5.6
Default Rec 3	9.8	5.9
Default Rec 4	9.5	5.7
Default Rec 5	8.6	5.2
Default Rec 6	9.5	5.7
Default Rec 7	9.8	5.9
Default Rec 8	9.3	5.6
Default Rec 9	8.8	5.3
Default Rec 10	8.6	5.2

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Rye Road Alternative Build 2015
Facility: Rye Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2015
Intersection Type:	T Intersection
Max Traffic1:	1320 veh/hour
Traffic2:	810 veh/hour
Speed1:	60
Speed2:	55

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	7.3	4.4
Default Rec 2	7.8	4.7
Default Rec 3	7.3	4.4
Default Rec 4	6.4	3.8
Default Rec 5	6.9	4.1
Default Rec 6	7.9	4.7
Default Rec 7	8.0	4.8
Default Rec 8	6.8	4.1
Default Rec 9	6.5	3.9
Default Rec 10	6.7	4.0

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Rye Road Alternative No Build 2015
Facility: Rye Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2015
Intersection Type:	T Intersection
Max Traffic1:	912 veh/hour
Traffic2:	411 veh/hour
Speed1:	60
Speed2:	55

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	6.6	4.0
Default Rec 2	6.7	4.0
Default Rec 3	6.6	4.0
Default Rec 4	5.9	3.5
Default Rec 5	6.3	3.8
Default Rec 6	7.3	4.4
Default Rec 7	7.0	4.2
Default Rec 8	6.3	3.8
Default Rec 9	5.9	3.5
Default Rec 10	6.0	3.6

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Rye Road Alternative Build 2035
Facility: Rye Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2035
Intersection Type:	T Intersection
Max Traffic1:	1482 veh/hour
Traffic2:	655 veh/hour
Speed1:	60
Speed2:	55

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	7.2	4.3
Default Rec 2	7.4	4.4
Default Rec 3	6.9	4.1
Default Rec 4	6.2	3.7
Default Rec 5	6.8	4.1
Default Rec 6	7.7	4.6
Default Rec 7	7.7	4.6
Default Rec 8	6.7	4.0
Default Rec 9	6.2	3.7
Default Rec 10	6.4	3.8

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****

CO Florida 2004

Project: Rye Road Alternative No Build 2035
Facility: Rye Road/SR 64
Analyst: vas

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Urban
Stability Class:	D
Surface Roughness:	175
Background Concentration:	1-hr = 5.0 ppm 8-hr = 3.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2035
Intersection Type:	T Intersection
Max Traffic1:	1398 veh/hour
Traffic2:	624 veh/hour
Speed1:	60
Speed2:	55

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	7.0	4.2
Default Rec 2	7.3	4.4
Default Rec 3	6.9	4.1
Default Rec 4	6.2	3.7
Default Rec 5	6.8	4.1
Default Rec 6	7.5	4.5
Default Rec 7	7.5	4.5
Default Rec 8	6.6	4.0
Default Rec 9	6.1	3.7
Default Rec 10	6.3	3.8

****
PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
****